Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. – 3. (Canceled)

4. (Currently Amended) A pool monitoring system comprising~~The system of claim 2 wherein the characteristic signature comprises~~:

a hydrophone configured to generate an electrical signal in response to receiving a sound pressure wave in the liquid of a pool; and

a processor configured to

receive the electrical signal and generate a trigger signal, when the electrical signal includes a characteristic signature over a time period within a predetermined range of time periods, and

determine a trigger level from a background noise level;

wherein the characteristic signature comprises

a first frequency component, contained in a frequency spectrum of the electrical signal, within a low band, with a magnitude above the trigger level; and

a second frequency component, contained in the frequency spectrum, within a high band, with a magnitude above the trigger level.

Applicant : Robert Hoenig                     Attorney's Docket No.: 15627-002001
Serial No. : 10/697,143
Filed      : October 30, 2003
Page      : 3 of 8

5. (Original) The system of claim 4 wherein the low band comprises a continuous band of frequencies that is a subset of the range 500 Hz to 2 kHz.

6. (Original) The system of claim 4 wherein the high band comprises a continuous band of frequencies that is a subset of the range 2.5 kHz to 5 kHz.

7. – 8. (Canceled)

9. (Original) The system of claim 4 further comprising:

a first filter configured to pass the first component if the first component is within the low band; and

a second filter configured to pass the second component if the second component is within the high band.

10. (Original) The system of claim 9 wherein the first filter and the second filter are electrical circuits.

11. (Original) The system of claim 9 wherein:

the electrical signal is digitized;

the frequency spectrum is calculated based on the digitized electrical signal; and

the first filter and the second filter include processor instructions that operate on the calculated frequency spectrum.

12. – 16. (Canceled)

17. (Currently Amended) <u>A pool intrusion detection method comprising</u>~~The method of claim 16 wherein the characteristic signature comprises~~:

<u>generating an electrical signal in response to receiving a sound pressure wave in the liquid of a pool;</u>

<u>generating a trigger signal in response to receiving the electrical signal when the electrical signal includes a characteristic signature over a time period within a predetermined range of time periods; and</u>

<u>determining a trigger level from a background noise level;</u>

<u>wherein the characteristic signature comprises</u>

a first frequency component, contained in a frequency spectrum of the electrical signal, within a low band, with a magnitude above the trigger level; and

a second frequency component, contained in the frequency spectrum, within a high band, with a magnitude above the trigger level.

18. (Original) The method of claim 17 wherein the low band comprises a continuous band of frequencies that is a subset of the range 500 Hz to 2 kHz.

19. (Original) The method of claim 17 wherein the high band comprises a continuous band of frequencies that is a subset of the range 2.5 kHz to 5 kHz.

20. – 22. (Canceled)

23. (Original) The method of claim 17 further comprising storing a count of false alarms.

24. (Original) The method of claim 23 wherein the false alarms include receiving the electrical signal when the electrical signal includes a noise signature that is different from the characteristic signature.

25. (Original) The method of claim 23 wherein the false alarms include receiving the electrical signal when the electrical signal includes a noise signature over a time periods that is not within the predetermined range of time periods.

26. (Original) The method of claim 23 further comprising adjusting the trigger level in response to the count of false alarms increasing above a predetermined number.

27. (Original) The method of claim 23 further comprising adjusting the center frequencies of the low band and the high band in response to the count of false alarms increasing above a predetermined number.

28. (Currently Amended) A pool monitoring system comprising:~~The system of claim 1,~~

    a hydrophone configured to generate an electrical signal in response to receiving a sound pressure wave in the liquid of a pool; and

    a processor configured to receive the electrical signal and generate a trigger signal, when the electrical signal includes a characteristic signature over a time period within a predetermined range of time periods;

wherein the characteristic signature comprises respective magnitudes of a plurality of frequency components in a frequency spectrum of the electrical signal.

29. (Currently Amended) A pool intrusion detection method comprising:~~The method of claim 15,~~

generating an electrical signal in response to receiving a sound pressure wave in the
   liquid of a pool; and

generating a trigger signal in response to receiving the electrical signal when the
   electrical signal includes a characteristic signature over a time period within a
   predetermined range of time periods;

wherein the characteristic signature comprises respective magnitudes of a plurality of
   frequency components in a frequency spectrum of the electrical signal.


30. (Previously Presented) A pool monitoring system comprising:

a hydrophone configured to generate an electrical signal in response to receiving a
   pressure wave in the liquid of a pool; and

a processor configured to receive the electrical signal and generate a trigger signal, when
   the electrical signal includes a characteristic signature over a time period within a
   predetermined range of time periods, where the characteristic signature comprises
   respective magnitudes of a plurality of frequency components in a frequency
   spectrum of the electrical signal.


31. (Previously Presented) The system of claim 30, wherein each of the plurality of
frequency components is within a respective predetermined continuous frequency band, and the
frequency bands do not overlap.


32. (Previously Presented) The system of claim 31, wherein a first of the frequency bands
comprises a band of frequencies that is a subset of the range 500 Hz to 2 kHz and a second of the
frequency bands comprises a band of frequencies that is a subset of the range 2.5 kHz to 5 kHz.


33. (Previously Presented) A pool intrusion detection method comprising:

generating an electrical signal in response to receiving a pressure wave in the liquid of a

pool; and

generating a trigger signal in response to receiving the electrical signal when the

electrical signal includes a characteristic signature over a time period within a

predetermined range of time periods, where the characteristic signature comprises

respective magnitudes of a plurality of frequency components in a frequency

spectrum of the electrical signal.


34. (Previously Presented) The method of claim 33, wherein each of the plurality of
frequency components is within a respective predetermined continuous frequency band, and the
frequency bands do not overlap.


35. (Previously Presented) The method of claim 34, wherein a first of the frequency
bands comprises a band of frequencies that is a subset of the range 500 Hz to 2 kHz and a second
of the frequency bands comprises a band of frequencies that is a subset of the range 2.5 kHz to 5
kHz.